Response to ISO Control Area Data request – July 12, 2003
Assumptions Used in Navigant Comparative Benefits Study

Congestion Management
Congestion costs for the COI are based on historical average costs for the period January 1999 through December 2001. Congestion during this period was estimated to occur approximately 25 percent of the time and the average congestion or usage charge was $8.80/MWh. These congestion charges and frequency were applied to the usage of the PACI and COTP transmission to arrive at the estimated congestion charge. Congestion or Usage charge revenues were assumed to be a direct offset to transmission revenue requirement payments under the transmission access charge.

Imbalance Energy
Imbalance energy or deviation costs estimate three percent deviation for all schedules on the ISO grid with the exception of the MSS scenario where it is estimated that the MSS is able to load follow with generation without penalty or imbalance energy charges. Spot market imbalance energy prices are estimated to be 15 percent higher than average monthly prices (e.g., monthly price is $50/MWh; imbalance energy cost is $57.5/MWh).

Escalation Rates
A real escalation rate was set at three percent annually for ISO related charges. The Western expenses for operating expenses and transmission revenue requirement were assumed to be constant in real terms.

Ancillary Services
Ancillary service requirements were derived based on historical ancillary service requirements for the ISO from 1999 through 2002. The percentage obligations were:

Spinning	3.46%
Non-Spinning	3.99%
Replacement	1.38%
Regulation	4.84%

The costs for Ancillary Services and the value for Ancillary Services are based on a historical average of the ratio of ancillary service costs to market energy costs. The rates were as follows:

Spinning	18.8%
Non-Spinning	16.9%
Replacement	19.8%
Regulation	45.3

Ancillary Services available from the project were approximately 8,456,923 MWh.

	Total Available	**Total Surplus**
Spinning	1,983,034	1,742,833
Non-Spinning	5,749,255	5,427,260

Replacement	0	0
Regulation	724,634	388,631

The surplus available varies based on assumptions about differences in reserve requirements between the ISO and the federal control area.

Market Energy Costs
The power market costs were projected to be $38/MWh and escalate at approximately four percent annually through the study period.

TRR
The TRR is based on data from a CVP Transmission Rate Study completed for the April 2001 rate case. The TRR is an estimate of the amount of CVP transmission costs included in the CVP power rates. For the purposes of this study, TRR was $9.065 million. A copy of the 2001 Transmission Rate Study is available and can be forwarded to you if you'd like to receive a copy. The revenue requirement excludes certain existing contract revenues and revenue requirements based on the assumption that revenues and expenses would offset under all scenarios.

Cost Summary

Cost Summary	PTO Alternative	MSS Alternative	Control Area Alternative
Labor	$14,848	$17,285	$18,639
Capital Expenses	$2,826	$3,517	$6,001
Other One Time Expenses	$1,300	$1,300	$930

These costs represent a summary of the labor, capital and related expenses estimated for the different scenarios and was provided in an earlier e-mail list in tabular form. Some of the significant assumptions in that table include:

Labor/Infrastructure Costs:

Power Operations – Authorized Federal staffing levels at the time data for the study was collected was 25. In order to be ready to implement post-2004 operational alternatives, SNR identified a need to reorganize and restructure its existing dispatch unit (Transmission and Real-Time Desk) and using existing personnel to the maximum extent possible to set up and staff a new desk (Automatic Generation Control – AGC). The existing Real-Time desk is proposed to be renamed as the Transmission Scheduling and Security desk – TSS, and the Transmission desk is to be renamed the Switching desk) for either the MSS or Control Area formation option. Building on existing staffing levels, SNR estimates that an additional 8 new Federal positions would be required to staff AGC and TSS desks. Under the PTO option, the Federal staff remained at 25.

Power Marketing – Because of a need (under 2004 Marketing Plan) to provide merchant services to projected Full Load Service customers in the CAISO control area, and to continue to maintain SC certification status, SNR under all alternatives (Participating Transmission Owner -PTO, Metered Sub System - MSS, and Control Area -CA) would need to set up a 24-hour merchant desk. This desk would require 7 positions plus a supervisor. Since 4 of the positions are already staffed, a net increase of 4 additional Federal FTE's would be required under all of the alternatives. SNR's power marketing group estimated a need for one additional Federal FTE over existing levels to support scheduling/settlements group for either the MSS or CA option.

Maintenance: The Navigant study assumed that additional Federal FTE's would not be available. Consequently, increased workload associated with additional maintenance responsibilities under all alternatives were assumed to be absorbed within existing staff levels. For purposes of the study, incremental costs associated with maintenance, as well as the possible acquisition/construction of alternative facilities in the vicinity of PG&E-owned substations (Round Mountain and Cottonwood) were also estimated.

Control Area Advisor position: One temporary Federal position was assumed to be needed under the CA formation scenario. The need for this position was not identified in the other two alternatives (PTO or MSS).

Information Technology/Infrastructure: SNR is implementing its new 2004 Power Marketing Plan at the same time it is contemplating post-2004 operational alternatives. Consequently, the capability associated with many of the same IT systems needed to implement the marketing plan are available to meet the needs associated with either the MSS or CA scenarios. The study recognized that costs associated with communications equipment and the set up for an alternate control center were exclusive CA costs. During formation, the major systems were assumed to be either procured or developed through "contracted" consultants. The labor associated with these costs was incorporated into the capitalized expenses. No additional new Federal FTE's were assumed. Maintenance of these new systems and licensing requirements were assumed to be accomplished through a combination of existing Federal staff and/or contract personnel.